

1N4001G THRU 1N4007G

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1N4001G THRU 1N4007G

1.0A Axial Leaded General Purpose Rectifiers 50V-1000V

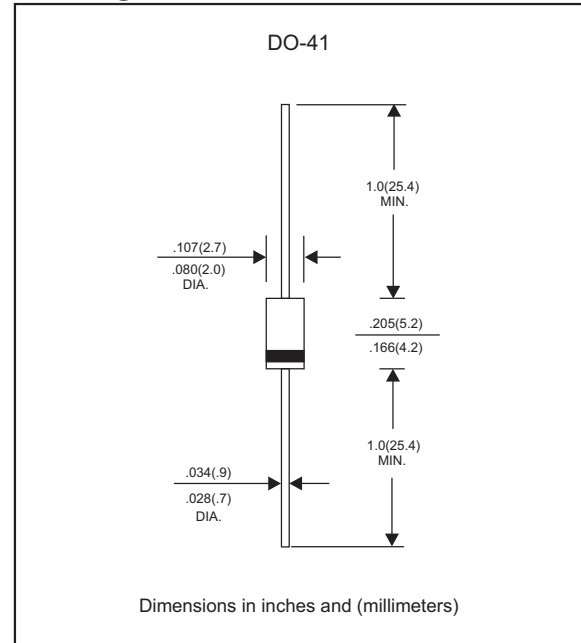
Features

- Axial lead type devices for through hole design
- High current capability
- High surge capability
- Glass passivated chip junction inside
- Lead free parts meet RoHS requirements
- Suffix "-H" indicates Halogen-free parts, ex. 1N4001G-H

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-41
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position : Any
- Weight : Approximated 0.33 gram

Package outline



Maximum ratings and Electrical characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

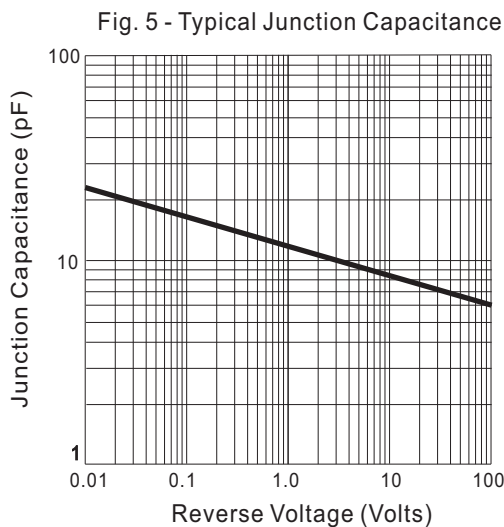
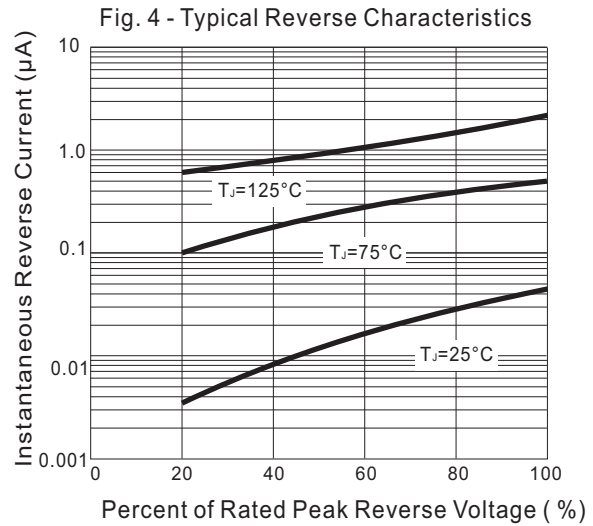
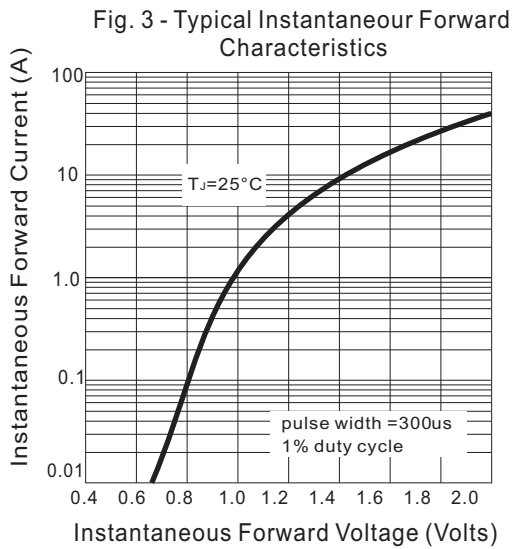
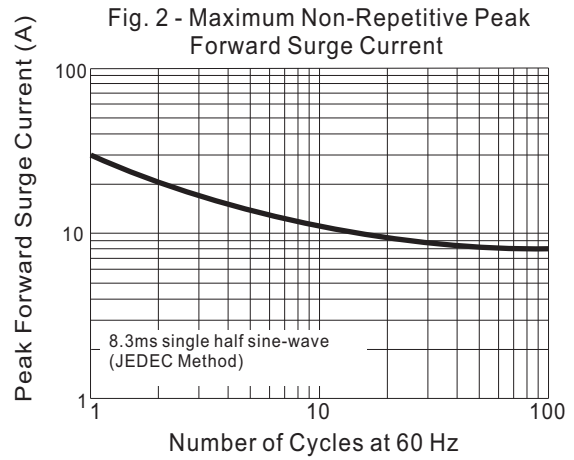
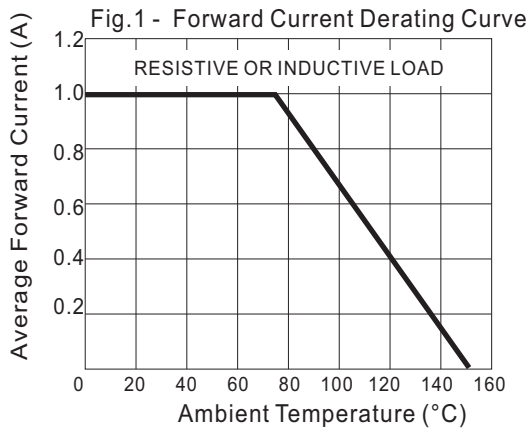
PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			30	A
Reverse current	$V_R = V_{RRM} \quad T_J = 25^{\circ}\text{C}$	I_R			5.0	μA
	$V_R = V_{RRM} \quad T_J = 125^{\circ}\text{C}$				50	
Thermal resistance	Junction to ambient, note 1	$R_{\theta JA}$		50		$^{\circ}\text{C}/\text{W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		10		pF
Storage temperature		T_{STG}	-65		+175	$^{\circ}\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature T_J , ($^{\circ}\text{C}$)
1N4001G	50	35	50	1.10	-55 to +150
1N4002G	100	70	100		
1N4003G	200	140	200		
1N4004G	400	280	400		
1N4005G	600	420	600		
1N4006G	800	560	800		
1N4007G	1000	700	1000		

- *1 Repetitive peak reverse voltage
- *2 RMS voltage
- *3 Continuous reverse voltage
- *4 Maximum forward voltage@ $I_F=1.0\text{A}$



Notes: 1. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

Rating and characteristic curves (1N4001G THRU 1N4007G)



1N4001G THRU 1N4007G

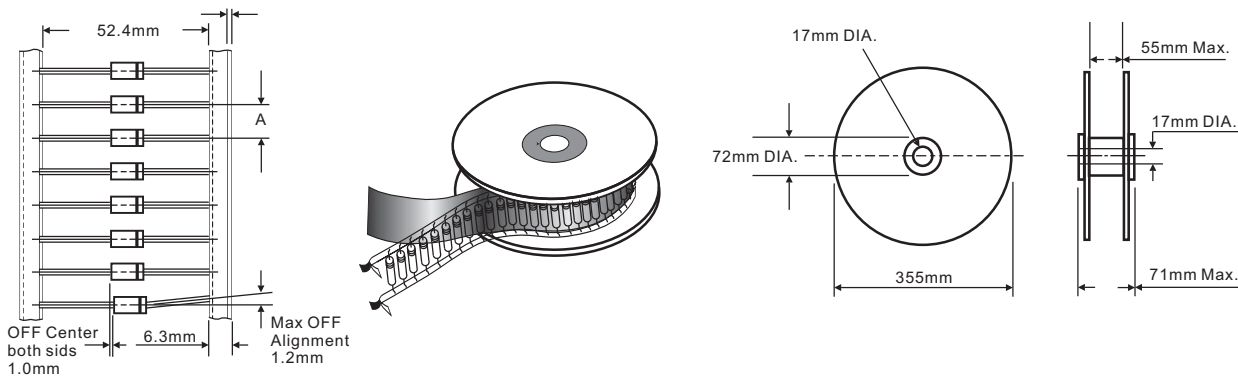
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
1N4001G	1N4001G
1N4002G	1N4002G
1N4003G	1N4003G
1N4004G	1N4004G
1N4005G	1N4005G
1N4006G	1N4006G
1N4007G	1N4007G

Taping & bulk specifications for AXIAL devices



REEL PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / REEL)	COMPONENT SPACING "A" in FIG. A	CARTON SIZE	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-41	5,000	5 mm	360 * 340 * 370	20,000	10.8

AMMO PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-41	5,000	260 * 83 * 160	440 * 270 * 340	50,000	20.0

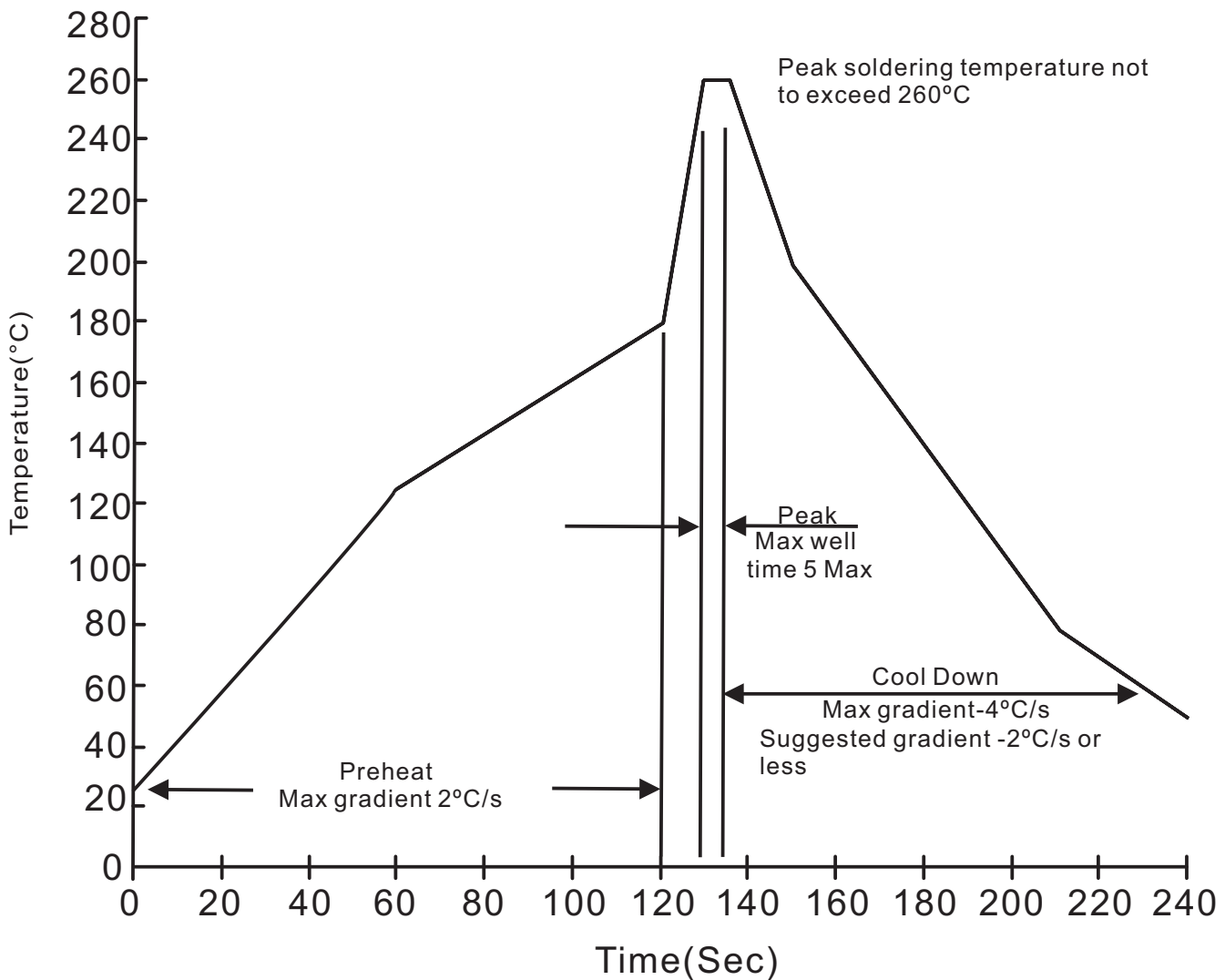
1N4001G THRU 1N4007G

BULK PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-41	1,000	194 * 84 * 20	465 * 220 * 260	50,000	20.6

Suggested thermal profiles for soldering processes

1. Lead free temperature profile wave-soldering



1N4001G THRU 1N4007G**High reliability test capabilities**

Item Test	Conditions	Reference
1. Solder Resistance	at $260\pm 5^{\circ}\text{C}$ for $10\pm 2\text{sec}$. immerse body into solder $1/16''\pm 1/32''$	MIL-STD-750D METHOD-2031
2. Solderability	at $245\pm 5^{\circ}\text{C}$ for 5 sec.	MIL-STD-202F METHOD-208
3. Pull Test	1.0kg in axial lead direction for 10 sec. $I_F=I_O$	MIL-STD-202F METHOD-211A
4. Bend Lead	1.0kg weight applied to each lead bending arc $90^{\circ}\pm 5^{\circ}$ for 3 times	MIL-STD-202F METHOD-211A
5. High Temperature Reverse Bias	$V_R=80\%$ rate at $T_J=150^{\circ}\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
6. Forward Operation Life	Rated average rectifier current at $T_A=25^{\circ}\text{C}$ for 500hrs. $T_A = 25^{\circ}\text{C}$, $I_F = I_O$ On state: power on for 5 min. off state: power off for 5 min, on and off for 500 cycles.	MIL-STD-750D METHOD-1027
7. Intermittent Operation Life		MIL-STD-750D METHOD-1036
8. Pressure Cooker	$15P_{SIG}$ at $T_A=121^{\circ}\text{C}$ for 4 hrs.	JESD22-A102
9. Temperature Cycling	-55°C to $+125^{\circ}\text{C}$ dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
10. Forward Surge	8.3ms single half sine-wave one surge.	MIL-STD-750D METHOD-4066-2
11. Humidity	at $T_A=85^{\circ}\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
12. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031